

Attorney Docket No. P16936-US4  
Customer Number 27045

### **REMARKS/ARGUMENTS**

#### **1.) Claim Amendments**

The Applicant has amended claims 1, 4, 6, 7, and 10. Claims 3, 5, 8, 19, 20, and 22 have been withdrawn in response to the restriction requirement. Accordingly, claims 1, 2, 4, 6, 7, 9-18, 21, and 23-29 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

#### **2.) Allowable Subject Matter**

The Applicant gratefully acknowledges the conditional allowance of claims 4, 6, 7, and 10-12. The Examiner objected to claims 4, 6, 7, and 10-12 as being dependent on a rejected base claim, but stated they would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. The Applicant has rewritten claims 4, 7, and 10 in independent form. Claim 6 depends from amended claim 4, and claims 11-12 depend from amended claim 10. Therefore, the allowance of claims 4, 6, 7, and 10-12 is respectfully requested.

#### **3.) Examiner Objections - Claims**

The Examiner objected to claim 6 due to informalities. There was no antecedent basis for "the compensation circuit". As noted by the Examiner, this term should have read, "the trimming circuit", and claim 6 has been amended to properly recite "the trimming circuit." Therefore, the withdrawal of the objection is respectfully requested.

#### **4.) Examiner Objections - Specification**

The Examiner noted that the cross-reference to related applications in the specification needs to be updated. The Applicant has updated the specification as suggested by the Examiner.

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**5.) Claim Rejections – 35 U.S.C. § 102(b)**

The Examiner rejected claims 1, 2, 9, 15-18, 21, 23 and 29 under 35 U.S.C. § 102(b) as being anticipated by Smith (US 4,743,867) as evidenced by Jopson (US 5,386,314) and Fredriksson (US 6,366,146). The Applicant respectfully disagrees.

Regarding claim 1, the Examiner states on page 3, lines 12-14 of the Office Action, "Smith clearly shows the low-pass modulation input signal as being coupled to the phase frequency detector 18 in an indirect manner just like that of Figure 8 of the instant application (See Figure 3 of Smith)." The Applicant respectfully disagrees.

A minor amendment has been made to claim 1 as a matter of form, not related to the rejection.

In the claimed invention, the low frequency input ( $f_{inst}$  10 of Fig. 8 for example, is the modulation frequency) enters the divider 8 (via the sigma delta modulator 9). Thus, as recited in claim 1, the low-pass modulation input is coupled to the phase frequency detector. In Smith, however, a low frequency input ( $v_m$  modulation input 56) goes into the PLL via an integrator (62), and thus enters the PLL after the phase detector (18). Thus, the low-pass modulation input signal is not even indirectly coupled to the phase frequency detector 18 as asserted by the Examiner. This means that Smith has to calibrate the gain of both modulation inputs (phase port gain compensator circuit 92 and VCO gain compensator 94). In the claimed invention, the gain of the LF modulation input is correct per definition. The gain from the output of block 8 to the output of power amplifier 14 is known in the claimed invention. Thus, only the path in to the VCO needs calibration.

In Smith, nothing is mentioned on how the gain is calibrated, while the calibration is a key aspect of the claimed invention as recited in claim 1.

On page 4, lines 9-10 of the Office Action, the Examiner states, "Also, as clearly recognized above the trimming circuit of Smith clearly *receives* the error signal of the phase detector but in an indirect manner." (Emphasis in original). The Applicant respectfully disagrees.

This statement by the Examiner cannot be true because there is no error signal at all in Smith (and thus no indirect manner to receive it). There is no feedback loop in

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which the gain compensator circuits are connected. The only feedback path is the normal PLL configuration of VCO out (48) to divider (59) to (52-54) to phase detector (18). The only input (104 and 108) that the phase port gain compensator circuit 92 and VCO gain compensator 94 receive is from a PROM (96). In a PROM, values must be permanently entered only once before operation of the PLL. There is no disclosure in Smith how the values in the PROM are entered. The PROM controls the phase port gain compensator circuit 92 and VCO gain compensator 94, but there is no updating or measuring of any error signal, and no way to enter such values into the PROM.

It should be noted, when viewing Smith's Fig. 3, there is no junction shown between line 98 (frequency data) and line 52-54 (the output of block 50). There is no connection there, and thus no feedback.

In the claimed invention, the error signal (810 of Fig. 8 for example) is continuously measured in the closed loop in which the trimming circuit operates.

Thus, several key aspects of the claimed invention, recited in claim 1, are not taught or suggested by Smith. Therefore, the withdrawal of the § 102 rejection and the allowance of claim 1 are respectfully requested.

Claims 2 and 9 depend from claim 1 and recite further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claims 2 and 9 is respectfully requested.

Independent claim 15 also recites a low-pass modulation input coupled to the phase frequency detector, and recites the step of receiving an error signal from the phase frequency detector in the trimming circuit. As noted above, Smith fails to teach or suggest either of these limitations. Therefore, the withdrawal of the § 102 rejection and the allowance of claim 15 are respectfully requested.

Claims 16-18, 21, and 23 depend from claim 15 and recite further limitations in combination with the novel elements of claim 15. Therefore, the allowance of claims 16-18, 21, and 23 is respectfully requested.

Independent claim 29 also recites that the trimming circuit is configured to receive an error signal from the phase frequency detector. As noted above, Smith fails to teach or suggest at least this limitation. Therefore, the withdrawal of the § 102 rejection and the allowance of claim 29 are respectfully requested.

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**6.) Claim Rejections – 35 U.S.C. § 103(a)**

The Examiner rejected claims 13, 14, 27 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Smith (US 4,743,867) as evidenced by Jopson (US 5,386,314) and Fredriksson (US 6,366,146). The Applicant respectfully disagrees.

Claims 13 and 14 depend from claim 1 and recite further limitations in combination with the novel and unobvious elements of claim 1. The Examiner cited Jopson and Fredriksson for disclosing an Enhanced Data GSM Environment (EDGE) communication system and a Wideband Code Division Multiple Access (WCDMA) communication system. However, these disclosures do not overcome the deficiencies of Smith as discussed above, and all of the claim limitations are not taught or suggested by the combination of Smith/Jopson/Fredriksson. Thus, a prima facie case of obviousness has not been established in accordance with MPEP 2143. Therefore, the allowance of claims 13 and 14 is respectfully requested. Likewise, claims 27 and 28 depend from claim 15 and recite further limitations in combination with the novel and unobvious elements of claim 15. Therefore, the allowance of claims 27 and 28 is respectfully requested for the same reasons as claims 13 and 14.

**7.) Claim Rejections– Obviousness-Type Double Patenting**

The Examiner rejected claim 29 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 29-31 and 36-38 of U.S. Patent No. 6,700,447. The present application and U.S. Patent No. 6,700,447 are commonly owned by the Assignee, Telefonaktiebolaget LM Ericsson (publ). The present application is a continuation in part application of U.S. Patent No. 6,700,447. An assignment, which assigns ownership to the Assignee of U.S. Patent No. 6,700,447 and all continuing applications, was recorded in the USPTO on November 1, 2002, at reel/frame 013457/0486.

The Applicants have filed a Terminal Disclaimer herewith to overcome this rejection. An authorization to charge Deposit Account No. 50-1379 for the Terminal Disclaimer fee under 37 C.F.R. 1.20(d) is enclosed.

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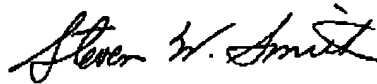
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### CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1, 2, 4, 6, 7, 9-18, 21, and 23-29.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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